

## 7 SPANISH FLAT RESORT

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### 7.1 Waste Water Systems

#### *Ponds:*

There is one evaporation pond. The pond is oval, approximately 45' wide and 150' long. Weeds are prevalent throughout the pond. There was an excess amount of algae and odor observed during our inspection. The mister spray system has been disconnected, possibly due to the high winds at this location and the potential for human contact by the wastewater. The maintenance man did not know where the pond inlet was located. A plugged AC pipe was the only potential inlet pipe that we could find. The wastewater retention pond is undersized for the current resort development. Spray disposal that is being performed should be ceased immediately because the wastewater that is being discharged is minimally treated (spraying occurs during peak usage), the wastewater is not disinfected, and the potential for human pathogenic contact is very high.

The force mains connecting the lift stations to the ponds are suspected of leaks and should be tested, repaired or replaced if needed.

#### *Lift Stations:*

There are two lift stations for 100 hookups.

LS 1: This is the main lift station at Spanish Flats. An Oakville pump is the lead pump with a Baldor as the back up. These pumps were not permanently mounted. There was an exposed pipe leading to the storage tank. The maintenance staff takes daily run-time readings. Audible and visual high-water alarms are provided. The force main is a 3" diameter steel pipe to the evaporating pond.

LS 2: This is a submersible station with two pumps. Pump starts and stops are controlled by a simple float system. The maintenance crew does not take run-time readings at this station. This station gets minimal use. An eroded pipe, probably the pump station force main, was visible.

The lift stations was found to be unacceptable for continued use. The lift stations would require, at a minimum, additional reliable pumping capacity, new instrumentation and controls, a functional alarm system, and standby power facilities in order to be adequate.

### 7.2 Potable Water Systems

#### *Treatment Plant:*

Water treatment is supplied off-site.

*Storage Tanks:*

Two storage tanks for 300 hookups. Both tanks are 15' high and 15' in diameter. These cinder block tanks sit side by side. Both tanks leak. The slabs are cracked with creek style weeds growing through them. There are unprotected electrical lines. The steel bands reinforcing the tanks are old and rusted.

### 7.3 Roads/Parking Lots

*Pavement Section:*

Between the entry and the store the collector road is in poor condition. Other areas of the collector road are in good to excellent condition. With the exception of the two large parking areas at the marina and at the store, secondary roads are in very good condition. For a 20-year design life, collector roads between the entry and the store should have areas of alligator cracking overexcavated and replaced with compacted aggregate base. This section of road should then receive a 3 inch thick asphalt concrete overlay. In all other roadways the areas of severe alligator cracking should be excavated and replaced with compacted aggregate base and a 1 inch thick asphalt patch to match the level of the existing roadway. Collector roads should then receive an asphalt concrete overlay that is 1.5 inches thick. Secondary roads should receive an asphalt concrete overlay that is 1.5 inches thick in the main parking areas and 1 inch thick elsewhere.

*Geometry:*

The width of most collector roads is adequate. No areas of severe curvature or overly steep grades were noted. After receiving an overlay these roads should be striped and signed. Most secondary roads are not wide enough to accommodate two-way traffic. However, in virtually all areas there is the potential to create one-way loops, significant widening is not anticipated. There is, however, at least one curve that needs to have its radius of curvature increased to permit fire truck access. In addition, there are several areas that are very congested and because of inadequate parking people tend to park on the narrow streets, hindering traffic flow. Surveys will be necessary to determine the appropriate roadway and parking geometry, but it appears that some trailers will need to be removed to reduce curves and to increase parking. No areas of overly steep grades were noted. After geometric modifications and an overlay, these roads should be signed.

*Other Considerations:*

The entry road appears to have significant fills in the first 500 feet or so. Settlement or creep of this fill appears to be responsible for some of the observed roadway distress. Occasional maintenance should be anticipated in this area.

## 7.4 Electrical Systems

Most concession buildings have individual PG&E meters and are served by an overhead high voltage distribution system with pole-mounted transformers owned by PG&E that runs through the marina. Some small concession buildings are sub-fed from larger buildings via a resort-owned distribution system. Electrical services ranged from poor to good. Internal wiring condition ranged from fair to good. Generally, the electrical systems are code compliant and adequate for current use, but not adequate for long term use. Several code violations were noted during the site inspection.

## 7.5 Boat Launch Facilities

The boat launch ramp at Spanish Flat Resort has a good location, accessibility and adequate parking. It is approximately 176 feet wide and 110 feet to the water line at the time of the site visit. There is sufficient width to accommodate 10 launch lanes. It is constructed of 4-inch thick asphaltic concrete pavement. The slope is 16.7 percent on average. The pavement shows some signs of sub base subsidence, particularly at one edge. The short retaining wall that defines the edge of the ramp has buckled and the pavement is coming apart and being undermined.

There are courtesy docks located at the ramp, secured to the pavement through the use of anchor lines. They both have non-encapsulated open-cell foam floats in a deteriorated condition. The docks consist of galvanized steel framing in sections filled with the floats and topped with composite and timber decking. The dock with composite decking has additional cover of plywood. The decking in both cases is in poor condition. There are anchors located at the water end of the docks and on the shore side.

The future use of the launch ramp is recommended but repairs must be made to the south end of the ramp. The sub-base material should be replaced where eroded and boundary walls should be provided with sufficient depth to prevent future erosion of the underlying material. The broken concrete should then be replaced. The location and accessibility of the ramp are acceptable. The site has space for adequate parking and turnaround area.

The boat launch ramp can be retained to support the continued use of marina facilities at this resort. The courtesy docks have deteriorated foam billets and timber decking and should be discarded.

## 7.6 Shoreline Developments

There were a minimal number of retaining structures along the lake perimeter. In the vicinity of Unit 291 was a combination of a short section of newly constructed wood wall adjacent to terraces having several failed low wood walls. The newly constructed section is expected to have a relatively short service life due to its wood construction.

The other general area of wall structures was in the vicinity of Unit No. 218, where the walls were deteriorated, failed, wooden structures.

The following is a listing of retaining structures that appear to be acceptable structures, having a reasonable design life, if properly maintained:

- None noted.

## 7.7 Marinas and Fuel Systems

### 7.7.1 Dock Facilities

There are twelve docks located at Spanish Flat Resort. The docks have a capacity of 158 boat slips. Dock #1 is a covered, 20 slip capacity dock. The floats are steel-pipe encapsulated and the decking is 2x8 timber. The steel on the cover supporting structure shows oxidation. Much of the decking has lost its coating and there are many cracked and loose boards. The protective rubstrips for the slips are in fair to poor shape. The float system consists of corrugated metal pipe. The freeboard for the dock is a consistent 19 inches. Access to the dock from the shore is provided by a timber ramp. The dock is held in position by chain anchor line running from the main walkway to the shore. The ends are set in concrete.

Dock #2 is an uncovered dock containing 32 slips. The decking consists of 2x6 timber supported by a galvanized steel frame. Non-encapsulated foam floats provide buoyancy. The floats have deteriorated somewhat. The decking is in fair to good condition and the rubstrips are in good condition. Freeboard for the dock is 16 inches. Access to the dock is provided by timber ramp.

The boat repair/rental building (Dock #3), fuel dock and aluminum boat rental (Dock #4) are all tied together. There is at present a boat lift floating dock located adjacent to the store. The fuel dock consists of non-encapsulated foam floats supporting 2" thick precast concrete panels. Adjacent to the fuel dock is located the store and boat repair shop. Again non-encapsulated foam floats are utilized with timber decking. The floats appear to be in poor condition with deterioration evident. The decking is also in poor condition. The aluminum boat rental slips are located next to the store. There are four slips. The fingerfloats are pinned to the main walkway by use of pipe hinges. Again, the non-encapsulated foam floats used for this dock are in poor condition as is the timber decking. The main dock supporting the store and shop is held in position by two chain anchor line running from the concrete ballast on shore to the dock.

The boat and personal watercraft rental dock (#5) appears to be in fair condition. There are six slips total. A plywood ramp cantilevers from the end of the dock for use by the personal watercraft. The floats are non-encapsulated open-cell foam. Some floats look relatively new. The fingerfloats that define the slips are pinned to the main walkway by use of pipe hinges. The

decking is 2x6 timber and is in fair condition with much of the coating gone. The dock is held in position by anchors located at the outer fingerfloats and moored to the land by two ropes on either side of the main walkway.

Dock #6 has 34 covered slips with an access gate. The cover is fabric supported by galvanized framing and timber stringers. It is fair to good condition. The floats are non-encapsulated open-cell foam in a deteriorated state. The dock consists of galvanized steel framing. The decking consists of 2x6 timber. The decking at this dock is in a better condition because of the protection provided by the cover. Several of the fingerfloats have a lower freeboard because of the float deterioration. The dock is anchored on both sides of the outmost fingerfloat and on either side of the access ramp.

Dock #7 has 36 slips. Access from the shore to the dock is by a six-foot wide ramp covered in timber decking. There is a gate at the entrance of the dock. The main walkway and fingerfloats are covered in 2"x4" aluminum decking manufactured by Hallsten Corp. The decking appears to be in good condition showing only slight signs of oxidation. Buoyancy for the dock is provided by corrugated metal pipe (CMP) pontoons. The dock is held in position by two anchor lines at the end of the main walkway and on the shore side by tow lines running diagonally on either side of the ramp to the shore. Overall, due to the metal CMP floats and the aluminum decking, the dock is in good condition.

Dock #8 contains 24 slips with plastic decking and enclosed plastic floats providing buoyancy. The dock is constructed of timber, which appears to be in good condition. The main walkway is pinned together in segments, as are the fingerfloats connected to the walkway. The dock has a consistent 13-inch freeboard. There is an access gate to the dock. Access to the dock from the shore is made by a timber ramp. This is in poor condition. The dock is anchored with chain lines secured to ballast at intervals along the dock length. Two anchor lines run from either side of the main walkway to the shore at diagonals. The construction and materials appear to be fairly recent and the dock, with the exception of the access ramp, is in good condition.

Dock #8A is virtually identical in construction, slip capacity and dimensions to Dock #8. There is also a lockable access gate to the dock. Access to the dock is gained by a timber ramp similar to Dock #8. Overall condition is the same as Dock #8.

Dock #9 is a courtesy dock with non-encapsulated foam floats showing advanced deterioration. The plywood decking is in poor condition. The dock is anchored at the end and on the shore side.

Dock #10 has a total of four slips and is covered with composite decking. The floats are non-encapsulated foam showing evidence of some deterioration. The decking is in fair condition. The dock is constructed of timber. The protective rubstrips appear to be in fair to poor condition. The dock is anchored to shore by two ropes running from either side of the access walkway. There is an access gate.

All docks with the exception of four (gas dock, Dock #7, #8 and #8A) should not be retained for long term use because of use of non-encapsulated foam floats and the deterioration currently present.

### 7.7.2 Fueling Services

There are two fuel dispensers located on the end of fuel dock. The dispensers have two fueling hoses with hand held service station type nozzles. There are two single compartment storage tanks on shore connected by piping to act as one tank. The tanks hold regular unleaded. The tanks are piped to the dispensers on the dock. There is a third tank here dedicated to ground fuel vehicles.

There are two dock storage tanks are located on shore. This is a flat paved area. The storage tanks are above grade, horizontal, rectangular, concrete encased, double wall tanks that sit on a concrete slab with a curb. The tank capacity is 2,000 gallons each. The tank appurtenances include a primary vent, emergency vent, gauge hatch, fill line and vapor recovery line. The tanks are connected to each other with a 2-inch line. One tank has a product dispensing pump. There is no ladder for access to the top of the tank. There is no tank level gauge. There is no leak detection monitoring system for the tank. There is no containment parking area for the tank truck or ground vehicles.

There is a third ConVault tank here for ground vehicles. Capacity is 1,000 gallons. It is equipped with a Fill-Rite model 702 pump and dispenser and fueling hose with a service station type nozzle. This tank is for the concessionaire's use for lawn mowers, backhoe, trucks, etc.

The pump discharge line contains a ball valve. There is no on/off solenoid valve on the pump discharge. The piping to the dock is a single, above grade 1 ½ inch galvanized pipe for part of the way. A hose is connected to this piping with a ball valve and the hose is routed to the fueling dock where it connects to a single steel pipe, again with a ball valve. The pipe is routed under the dock to the two dispensers.

The on-shore piping does not conform to the California Fire Code, Section 5202. The piping is 1 ½ inch Schedule 40 galvanized steel pipe with threaded joints. Valves are bronze, threaded. The threaded joints are corroded and are not made up properly. Threaded pipe should be gauged to check for conformance to American Standard taper pipe threads before being made up. Bronze valves are a low melt material. This piping is suitable for potable water, but not for fuel piping. The piping is inadequately supported.

Suitable fuel piping for this service would be 1 ½ inch Schedule 80 black steel pipe with socket weld joints or threaded joints. The threaded joints would be gauged. Socket weld joints are preferred. Threaded joints would be used where necessary for equipment connections. Valves would be steel. The piping would be painted and attached to substantial supports.

The dock piping does not conform to the California Fire Code, Section 5202. Dock piping is the same material as on shore piping. In addition, the piping is painted. Connection to shore piping is made with fuel hose. Hose couplings are threaded. The piping is under the floating dock and is not accessible.

Suitable fuel piping for this service would be flexible double wall pipe in a ducted metal jacket. Leak detection is not required. Final connection to the dispensers would be made in a sump box. This type of piping is specially designed for marina installations.

## 7.8 Preliminary Environmental Assessment

A site visit was conducted to assess and photograph present site conditions. Mr. Vince Renyer, resort manager, was interviewed regarding site history and operations. Results of the interview and site observations are presented in the following table. Results of the preliminary environmental assessment are summarized in the following site observations table:

# SITE OBSERVATIONS

General Observations	Remarks	Observed	Not
Current Use	Resort with motel, restaurant, store boat facilities and mobile homes	X	
Past Use			X
Structures	Numerous buildings, restrooms, kiosks, office, restaurant, store	X	
Terrain	Varied	X	
<b>Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.</b>		<b>Observed</b>	<b>Not Observed</b>
Hazardous chemical and petroleum products in connection with known use. Fill dirt from an unknown source.			X
Aboveground storage tanks (ASTs)	Unleaded/Super/Premium gasoline near store.	X	
Underground storage tanks (USTs)			X
Odors			X
Pools of Liquid			X
Drums			X
Hazardous chemical and petroleum products in connection with unknown use.			X
Unidentified substance containers			X



SITE OBSERVATIONS (CONTINUED)

Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.		Observed	Not Observed
Chemical storage or agricultural chemical mixing areas		X	x
Asbestos, and lead based paints	Not assessed		
Polychlorinated biphenyls (PCBs)			X
Pits, Ponds, or Lagoons	Waste water ponds.	X	
Stained soil or pavement			X
Stressed vegetation			X
Hazardous Waste Storage			X
Solid Waste			X
Waste Water		X	
Process waste water			X
Wells			X
Dry wells			X
Surface water	Waste water ponds	X	
Storm basins/catch			X

SITE OBSERVATIONS (CONTINUED)

Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.		Observed	Not Observed
Storm drains			X
Drains and sumps			X
Septic system			X
Loading and unloading areas			X
Burned or buried debris			X

In summary, the environmental survey did not reveal recognized environmental conditions at the site.